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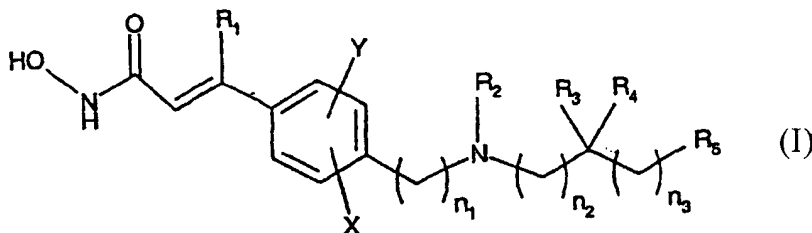
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ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: HYDROXAMATE DERIVATIVES USEFUL AS DEACETYLASE INHIBITORS



(57) Abstract: The present invention provides hydroxamate compounds of formula (I) which are deacetylase inhibitors. The compounds are suitable for pharmaceutical compositions having anti-proliferative properties.

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## INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

 IPC 7 C07D209/16 C07C259/06 C07D417/12 C07D403/12 C07D471/04  
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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BIOSIS, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 55449 A (QUEENSLAND INST MED RES ;FAIRLIE DAVID (AU); PARSONS PETER G (AU);) 10 December 1998 (1998-12-10) claims 4, 15 formula Vg, 16, 25-26; p. 6, l. 29-33; p. 13-p. 14, l. 11, p. 45 compound 5, p. 47 3rd structure, p. 48 MW2796, p. 65 table 1 ---	1-40
X	WO 95 31977 A (SLOAN KETTERING INST CANCER ;UNIV COLUMBIA (US)) 30 November 1995 (1995-11-30) claims 40, 42, 55-56; p. 23, l. 19-l. 35; p. 74 compound 77 and tables 2-3 --- -/-	1-40

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 01 38322 A (METHYLGENE INC) 31 May 2001 (2001-05-31) claims 26-27,29-31,37,41; compounds 36, 87-91,93-97,99-106, 108-115,120,145-147,170; table 5 -----	1-40
P,A	M. YOSHIDA ET AL.: "Histone deacetylase as a new target for cancer chemotherapy" CANCER CHEMOTHER. PHARMACOL., vol. 48, no. Suppl. 1, 1 July 2001 (2001-07-01), pages S20-S26, XP002188621 the whole document -----	1-40

## INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9855449	A	10-12-1998	AU	7751698 A	21-12-1998
			WO	9855449 A1	10-12-1998
			EP	0988280 A1	29-03-2000
WO 9531977	A	30-11-1995	US	5700811 A	23-12-1997
			AU	692561 B2	11-06-1998
			AU	2647495 A	18-12-1995
			CA	2190765 A1	30-11-1995
			EP	0760657 A1	12-03-1997
			WO	9531977 A1	30-11-1995
WO 0138322	A	31-05-2001	AU	1876801 A	04-06-2001
			WO	0138322 A1	31-05-2001